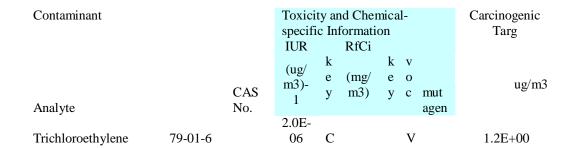
These concentrations exceed the United	Letter to residents, signed by
States Environmental Protection Agency's (EPA's) action levels of 2.7 µg/m ³ for soil vapor and 0.38 µg/m ³ for indoor air, respectively	John DiMartino Remedial Project Manager New York Remediation Branch
Trichloroethylene (TCE) vapor was detected beneath your business at a concentration of 1.3 micrograms per cubic meter (μg/m³). Based upon these results, EPA recommends that a mitigation (reduction) system be installed in your home.	Rick Ehrhart RCRA Corrective Action Coordinator Corrective Action / Waste Minimization Section (6PD-C) U.S. Environmental Protection Agency - Region 6
Trichloroethylene (TCE) vapor was detected beneath your home at a concentration of 23 micrograms per cubic meter (µg/m³), and inside your home at 0.61 µg/m³. Based upon these results, EPA recommends that a mitigation (reduction) system be installed in your home.	Rick Ehrhart RCRA Corrective Action Coordinator Corrective Action / Waste Minimization Section (6PD-C) U.S. Environmental Protection Agency - Region 6
. In the case of TCE, the New York State Department of Health did a current review of the literature and found that the level to protect against non-carcinogenic effects is around 10 ug/m ³ .	Basis of Recommended Remediation Approach for Sites Impacted by Vapor Intrusion of TCE
EPA used the following screening and action levels for TCE during the Removal Assessment: 1. Property Soil Vapor: 41 parts per billion	Request for Funding for Removal Action at the Perkasie TCE Site, Borough of Perkasie, Bucks County, Pennsylvania
by volume (ppbv) ¹ 2. Sub Slab Soil Vapor: 4.1 ppbv ²	From: Richard M. Fetzer, On- Scene Coordinator
3. Indoor Air – Agency for Toxic Substances and Disease Registry (ATSDR) Health Consultation for each residential dwelling tested	note 41 ppbv = 220 microgram/cu m
4. EPA Drinking Water MCL: 5 ppb ³	
5. PADEP Fish and Aquatic Life Criteria: Continuous Concentrations: 450 ppb with Maximum Concentration of 2,300 ppb	
6. PADEP Human Health Criteria: 2.7 ppb ⁵	
7. RBC for Soil: 7.2 mg/kg	

EPA initially addressed all homes with sub-slab TCE vapor levels exceeding 50 ug/m However, in February 2005, we adopted a revised indoor air cleanup goal of 0.38 ug/m for the Hopewell Precision site. 79016 Trichloroethylene 2.2E-02	Testimony of George Pavlou Director, Division of Emergency and Remedial Response U.S. Environmental Protection Agency, Region 2 Before the Subcommittee on Water Resources House Committee on Transportation and Infrastructure OSWER Draft Guidance for			
microgram/cu m	Evaluating the Vapor Intrusion to Indoor Air Pathway from			
	Groundwater and Soils			
	(Subsurface Vapor Intrusion			
	Guidance)			
Indoor Air Concentration ug/m3	Priority			
> 10	Einst			
>10 5-10	First			
1.2-5	High			
	Site-Specific			
<1.2	Low			

ATSDR Minimal Risk Levels (MRLs) November 2007

Name	Route	Duration	MRL	Factors	Endpoint		Cover Date	CAS Number
TRICHLOROETHYLENE	lnh.	Acute	2 ppm	30	Neurol.	Final	09/97	000079-01-6
		Int.	0.1 ppm	300	Neurol.			
	Oral	Acute	0.2 mg/kg/day	300	Develop.			

2 ppm = 10,750 microgram /cubic meter 0.1 ppm = 538 microgram /cubic meter



HEALTH CONSULTATION

GRANTS CHLORINATED SOLVENTS PLUME GRANTS, CIBOLA COUNTY, NEW MEXICO

ATSDR derives Minimum Risk Levels (MRL) that can be used to evaluate the risks posed by exposure to hazardous chemicals. A MRL is an estimate of daily human exposure to a dose of a chemical that is likely to be without an appreciable risk of adverse noncancerous effects over a specified duration of exposure. The MRL for intermediate term exposures (15-364 days) to TCE is 100 ppb (546 μ g/m³). None of the measured indoor air concentrations of TCE exceeded this value. The MRL for chronic term exposures (\geq 365 days) to PCE is 40 ppb (271 μ g/m³). None of the measured indoor air concentrations of TCE or PCE exceeded this value. Therefore, no non-cancer adverse health effects would be expected to result from exposure to the concentrations of TCE and PCE detected in indoor air during the sampling event.

Experimental studies have shown that exposure to high doses of TCE or PCE can cause cancer in laboratory animals. Epidemiological studies of human exposure to TCE and PCE have given mixed results: some studies concluded that human exposure to these chemicals is associated with an increased risk of cancer, whereas other studies have seen no such effect. On the basis of the available evidence, the Department of Health and Human Services categorized both TCE and PCE as reasonably anticipated to be a human carcinogen.

EPA has withdrawn its cancer slope factors for TCE and PCE pending further evaluation. Therefore, the increased cancer risks, if any, from inhalation exposures to TCE and PCE cannot be quantitated. Furthermore, a one-time measurement of indoor air VOC concentrations may not be representative of long-term exposures.

Region 3 guidance

TCE concentration in indoor	EPA Risk Management Considerations
air	
$< 1 \text{ ug/m}^3$	Generally not of concern; no mitigative action likely
$1-10 \text{ ug/m}^3$	May be of concern for long-term exposure, depending
	upon multiple considerations (identified in narrative
	below)
$10 - 100 \text{ ug/m}^3$	- Likely to be of concern; remedial action likely
	- Removal action possible dependent on multiple
	considerations (identified in narrative below)
$> 100 \text{ ug/m}^3$	- Likely to be of concern even for shorter-term
	exposure; - Removal action/exposure mitigation
	likely